

# Rabies Pre-Exposure Prophylaxis (Pre-EP) Recommendations



**Who needs Pre-EP?** Pre-Exposure rabies prophylaxis (Pre-EP) is recommended by the Centers for Disease Control and Prevention for people who are at risk for rabies exposure through contact with potentially rabid animals or rabies virus through their occupation, hobby or travel. All persons in the continuous, frequent and infrequent risk categories should receive Pre-EP. The Pre-EP series does not eliminate the need for additional treatment if an exposure occurs, however it will significantly reduce biologics required if a rabies exposure occurs.

In North Carolina rabies is enzootic in *high risk* species of wild mammals (raccoons, bats, foxes, skunks, large carnivores, groundhogs and beaver). The disease may spillover into unvaccinated dogs, cats and livestock and wild mammals that encounter rabies-infected animals. People that work or interact with any mammals are classified in the *frequent risk category*.

## Rabies Risk Categories and Pre-Exposure Recommendations

### Continuous Risk

- **Persons at risk:** Rabies research lab workers; rabies biologic production workers
- Virus present continuously, high concentrations
- Complete Primary Vaccination Series prior to beginning work with virus
- Serological testing (Rapid Fluorescent Focus Inhibition Test or RFFIT) every 6 months
- Booster vaccination when antibody level falls below acceptable level

### Frequent Risk

- **Persons at risk:** Rabies diagnostic lab workers, spelunkers, veterinarians and staff, animal control, shelter and wildlife workers in rabies-enzootic areas. All persons that frequently handle bats.
- Complete Primary Vaccination Series prior to beginning work with animals
- Serological testing (RFFIT) or booster vaccination every two years

### Infrequent Risk

- **Persons at Risk:** Travelers visiting areas where rabies is enzootic and immediate access to appropriate medical care including biologics is limited. See The CDC’s Yellow Book for Travelers’ Health for vaccination guidance on destination of travel: <http://wwwnc.cdc.gov/travel/destinations/list>
- Complete Primary Vaccination Series prior to travel
- No serological testing or booster vaccination

### Rare Risk

- Episodic exposure with source recognized (bite or non-bite exposure)
- Population at large is in this category
- No Pre-Exposure vaccination necessary. Postexposure prophylaxis (PEP) is indicated after exposures.

## Pre-Exposure Rabies Vaccination Schedule

### Pre-EP Vaccination Series

Three 1.0 mL injections of Rabies Vaccine (HDCV, or PCEC)\*: administered one injection per day intramuscularly in the Deltoid on days 0, 7 and 21 or 28

### Rabies Pre-EP Schedule

Days	0	7	21 or 28
Rabies Vaccine*	1.0 mL	1.0 mL	1.0 mL

**\*Rabies Vaccine** – inject in deltoid muscle or anterolateral thigh muscle for infants and small children. The gluteal area should never be used for rabies vaccine injections because observations suggest administration in this area results in lower neutralizing antibody titers.



## Rapid Fluorescent Focus Inhibition Test (RFFIT) FAQs

**Why the RFFIT?** The Rapid Fluorescent Focus Inhibition Test is currently the gold standard test that demonstrates adequate rabies virus antibody neutralization, recommended by both the ACIP and the WHO. Only the RFFIT should be used for clinical decision making for rabies risk management.

### When should a RFFIT serological titer be done routinely?

- Frequent Risk Category – every two years
- Continuous Risk Category – every six months

**What if the RFFIT does not show an adequate neutralization titer?** A single rabies booster will be necessary to boost immunity.

**Is a RFFIT needed immediately after initial Pre-EP or postexposure prophylaxis (PEP) to show seroconversion?** No, on a routine basis no testing is required for most healthy people completing Pre-EP or PEP according to the applicable ACIP schedule.

**Are there other times when a RFFIT is recommended?** Yes, after a PEP regimen RFFIT is necessary to document adequate sero-conversion in these circumstances:

- patient is immune-compromised;
- significant deviation of the PEP schedule occurred (consult with state or local public health);
- patient initiated treatment internationally with a non-cell culture vaccine.

### Where is Rabies Serological Testing (RFFIT) performed?

Kansas State University  
2005 Research Park Circle  
Manhattan, KS 66502  
Phone: 785-532-4483  
Fax: 785-532-4474 or 785-532-4522  
Email: [rabies@vet.k-state.edu](mailto:rabies@vet.k-state.edu)  
<http://www.ksvdl.org/rabies-laboratory/>

Atlanta Health Associates, Inc.  
309 Pirkle Ferry Road, Suite D300  
Cumming, GA 30040  
Phone: 800-717-5612 or 770-205-9091  
Fax: 770-205-9021  
Email: [info@atlantahealth.net](mailto:info@atlantahealth.net)  
<http://www.atlantahealth.net/contact.html>

### Contact Information

**North Carolina Communicable Disease Branch**  
**919-733-3419 (24/7)**  
**<http://epi.publichealth.nc.gov/cd/>**

### Resources

- Human Rabies Prevention---United States, 2008. Recommendations of the ACIP. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e507a1.htm>
- Use of a Reduced (4-Dose) Vaccine Schedule for Postexposure Prophylaxis to Prevent Human Rabies: Recommendations of the Advisory Committee on Immunization Practices. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>
- CDC: [www.cdc.gov](http://www.cdc.gov)